

OFFICE BRIDGE
(Westfir Covered Bridge)
Spanning North Fork of Middle Fork Willamette River, Old Mill
Road (former logging road)
Westfir
Lane County
Oregon

HAER OR-125
OR-125

PHOTOGRAPHS

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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD

National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

HISTORIC AMERICAN ENGINEERING RECORD

OFFICE BRIDGE¹ (Westfir Covered Bridge²) HAER No. OR-125

Location: Spanning North Fork Willamette River at Old Mill Road
(originally part of Oakridge-Lowell Road), Westfir, Lane County,
Oregon
UTM: 10.540593.4845177, Westfir East, Oregon, Quad.

World Guide #: 37-20-39

Structural Type: Howe through truss covered bridge

Date of Construction: 1944; rehabilitated 1994

Designer/Builder: Westfir Lumber Company

Previous Owner: Westfir Lumber Co. (1944); Hines Lumber Co. (1945-1977)

Present Owner: Lane County, Oregon

Previous Use: Vehicular and pedestrian bridge (private)

Present Use: Vehicular and pedestrian bridge (public)

Significance: Built in 1944 to provide access to the Westfir Lumber Company mill site, Office Bridge is the largest covered bridge in Oregon and a significant artifact of the state's lumber industry. It is one of the only surviving covered bridges in Oregon built with private funds. Today, Office Bridge is integral feature of a recreation trail maintained by the U.S. Forest Service.

Historian: Researched and written by Lola Bennett, September 2003

Project Information: The National Covered Bridges Recording Project is part of the Historic American Engineering Record (HAER), a long-range program to document historically significant engineering and industrial works in the United States. HAER is administered by the Historic American Buildings Survey/Historic American Engineering Record, a division of the National Park Service, U.S. Department of the Interior. The Federal Highway Administration funded the project.

¹ Office Bridge was so-named because it provided a convenient crossing between the lumber mills, on the north side of the river, and the company's main office, on the south side of the river.

² This name was suggested by the Westfir Covered Bridge Society in 1990.

Chronology

- 1805 America's first covered bridge built at Philadelphia
- 1836 First pioneers make the 2,000-mile journey to Oregon via covered wagon
- 1851 Oregon's first covered bridge built at Oregon City
- 1859 Oregon becomes the 33rd state admitted to the Union
- 1893 President Grover Cleveland creates Cascade Forest Reserve
- 1897 Organic Act mandates managed use of national forest reserves
- 1910 Southern Pacific Railroad builds line from Portland to San Francisco
- 1922 U.S. Forest Service offers timber acreage for sale in Cascade National Forest
- 1923 Western Lumber Company begins construction of plant and company town at Westfir
- 1925 Western Lumber Company begins operations at Westfir plant
- 1935 Western Lumber Company reorganized as Westfir Lumber Company (Blythe & Co.)
- 1944 Present bridge erected at this site
- 1945 Hines Lumber Company purchases Westfir plant
- 1969 430 workers employed at Westfir plant
- 1970 Office Bridge listed on the National Register of Historic Places
- 1977 Hines Lumber Company closes Westfir plant
- 1978 Westfir incorporated as a city
- 1989 Oregon Covered Bridge Program created
- 1990 Westfir Covered Bridge Association organized
- 1994 Office Bridge rehabilitated
- 2002 Office Bridge rehabilitated
- 2003 Office Bridge recorded by Historic American Engineering Record

Description

Office Bridge is a single-span 180-foot Howe through truss covered bridge on concrete abutments. The bridge is 30 feet high, 32 feet wide and 190 feet long, portal to portal. It has a 16' wide roadway and a 6' wide covered walkway on the west side. The bridge is covered with horizontal tongue-and-groove siding. There are four 4'-6"x8'-9" hooded windows on each side of the bridge.

The upper and lower chords are three parallel 14"x16" sticks, blocked and bolted together. The chords are connected with four vertical steel rods (increasing in diameter from 1-1/4" at the center of the span to 2" at the ends of the span) at each panel point, tensioned with nuts assembly above the upper chord and below the lower chord. Within each panel is a set of three 12"x12" braces, angling up toward the center of the bridge. The two center panels in each truss have paired braces and single counterbraces.

The ends of the lower chords rest on bedding timbers on top of the abutments. A built-up floor beam (two 8"x18" timbers and one 12"x18" timber, blocked and bolted together) hangs below the lower chord at each panel point. There are nine lines of 6"x16" stringers laid longitudinally on top of the floor beams and a 4"x12" plank deck nailed transversely on top of the stringers. There is 8"x8" lateral cross-bracing between the floor beams. The pedestrian walkway has floor beams cantilevered from the main part of the bridge. There are four lines of stringers on top of the floor beams and 2"x6" plank decking on top of the stringers.

The bridge is braced overhead with 10"x10" lateral cross bracing between panel points. The roof is framed by 2"x6" rafters spaced 2 feet apart. There are 1"x4" purlins on top of the rafters and wood shingles nailed to the purlins.

The bridge is posted for 20 tons, although it no longer carries logging trucks.

History

In the early 1900s, the Southern Pacific Railroad built a railroad line between San Francisco and Portland, Oregon, opening up parts of the western Cascades to settlement and industry.³ The railroad was eager to promote the lumber industry to provide cargo for its rail service to California. Accordingly, the U.S. Forest Service, mandated with managed use of forested lands, planned several timber sales in the Willamette River Valley.⁴ The largest of these sales, the North Fork Sale, comprised 13,300 acres and 685 million board feet of lumber.

The successful bidder for the North Fork Sale was George H. Kelly, a partner in the famed Booth-Kelly Lumber Company, which had business ties with the Southern Pacific Railroad and held title to over 1 million acres of timber in Oregon. In the summer of 1923, shortly after

³ Construction began in 1905 and was completed in 1926.

⁴ Lawrence and Mary Rakestraw, *History of the Willamette National Forest* (Eugene: Willamette National Forest, 1993).

landing the North Fork Sale contract, Kelly formed the Western Lumber Company at Portland, Oregon, with \$2 million in capital.

By September 1923, work was progressing on the "*modern sawmill town*" of Westfir.⁵ During the fall and winter, workmen constructed two dams, a railroad spur and a state-of-the-art, 25,000 square-foot lumber mill on the north side of the river. In the spring of 1924, streets were laid out and construction began on worker's housing on the south side of the river.⁶ The company commenced operations in June 1925, with a workforce of 300 men.

According to county records, the first bridge at this site was a wooden Howe truss bridge, built by A.S. Miller & Sons in 1881 to carry the road from Oakridge to Lowell.⁷ That bridge may still have been in place in October 1924, when a dam gave way near the new lumber mill, seriously damaging an "*old wooden bridge at Westfir*."⁸ Sometime during construction of the Westfir plant, the lumber company built a new county bridge at Hemlock in order to divert traffic around the mill site and rebuilt, or took possession of the existing bridge at this site.⁹ Historic photographs show an uncovered Howe through truss bridge at this site in 1925.¹⁰ That bridge reportedly washed out in a flood in 1942, and the present covered bridge was built in 1944.¹¹

In 1945, the Hines Lumber Company purchased the Westfir mills. Hines continued lumber operations here until 1977 when they closed the plant. The 1980s were a time of upheaval for the community, as families moved away, the mills were torn down and the county foreclosed on company-owned property. The former mill workers who stayed bought their homes and began to renovate them and formed the Westfir Resident's Association. In 1978, Westfir was incorporated as a city.

In 1990, residents of Westfir and Oakridge formed the Westfir Covered Bridge Society, for the purpose of preserving Office Bridge as a community landmark and tourist attraction. Lane County took possession of the bridge in 1991 and Office Bridge was rehabilitated in 1993. It is now part of a U.S. Forest Service recreation trail.

Design

In 1840, Massachusetts millwright William Howe (1803-1852) patented a parallel-chord truss with vertical iron tension rods and diagonal wooden braces and counterbraces crossing within each panel. By substituting adjustable iron rods for the wooden posts of the Long truss (1830), Howe was able to overcome the inherent difficulty of creating tension connections in wood and

⁵ *The Timberman*, September 1923: 88.

⁶ *The Timberman*, March 1924: 198.

⁷ Lane County Surveyor's Office, *Bridge Records*

⁸ *The Oakridge Review* 31 October 1924: 1.

⁹ "Hebert Recalls the Early History of Westfir," *Dead Mountain Echo* 30 March 1977: 6B.

¹⁰ *The Timberman*, August 1925: 58.

¹¹ The accuracy of these dates could not be determined during the course of the author's research. No primary records were found and secondary sources contain conflicting information. An aerial view of Westfir published in the May 1946 *Hines Log* shows the present covered bridge in place at that date.

simplify the process of erecting and repairing bridges. Used extensively in the United States and Europe, primarily for railroad bridges, the Howe truss was endorsed by the American Society of Civil Engineers as "*the most perfect wooden bridge ever built.*"¹² The Howe truss successfully made the transition to the construction of all-metal bridges, but was eventually superceded by the all-metal Pratt truss (1844).

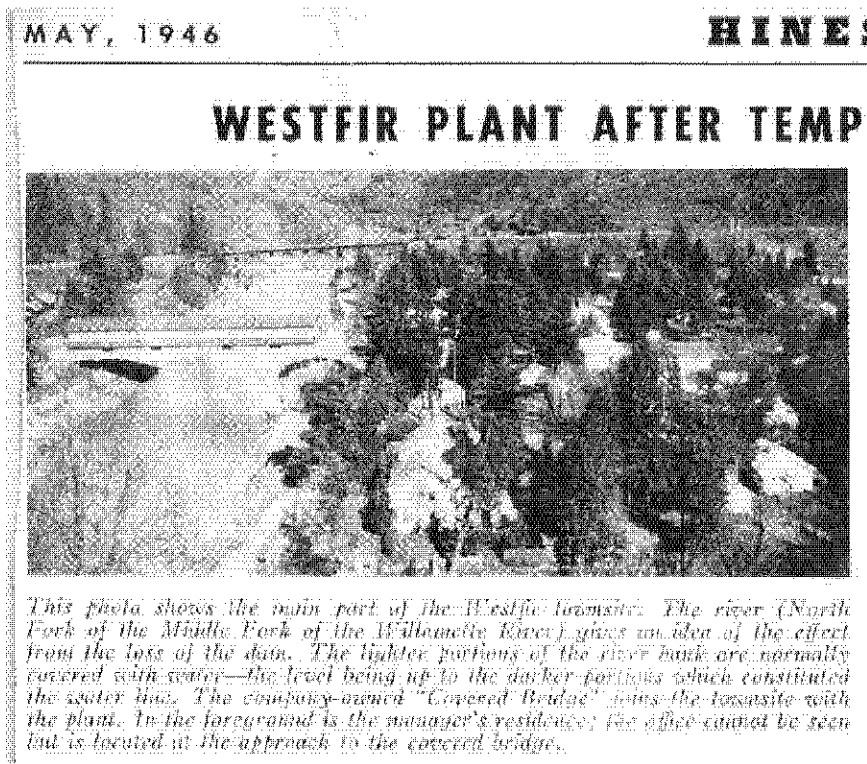
¹² American Society of Civil Engineers, *Transactions* (1878): 340.

Appendix A – Historic Photographs

Photograph courtesy of Delbert Spencer, Oakridge Museum.



Photograph courtesy of Delbert Spencer, Oakridge Museum.



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